A COMPARATIVE STUDY OF SELECTED PHYSICAL, PSYCHOLOGICAL AND PHYSIOLOGICAL PARAMETERS OF BASKETBALL PLAYERS AT VARIOUS LEVELS

Synopsis

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Sports is a Physical, psychological and physiological activity. The physical, intellectual, and physiological guiding of game enthusiasts can be crucial for sports workouts sports instruction along with the many skills of a motion and sports exercises in today's competitive world. The organizations are set up not only to provide the overall performance in movement but also to win the activity. Hence, the ability cap potential—which is now unpalatable for the abilities—is required for winning the movement. Yet, the main challenge is the heart of the game enthusiasts, with which they play and perform their spectacular inside the opponent.

Psychology is a behavioral science had made to create to aid coaches in their work and improve athletes' performance. It also worries about the total wellbeing and personal adjustment to the persons whose involved in sports. Sports performance is not only depending on physical appearances but also psychological characteristics plays an important role.

For example: 1.‘ An individual cannot survive in boxing if he is not aggressive’.

2. A contestant would be unable to continue in running events if he lacked actual dangerous strength. Each game also has its own distinctive patterns that blend academic and physiological components. Even though all competitors in a global or public competition may also receive the same character-enhancing substances and education, academic habits are essential for winning the challenge.

Similarly particular game own type of specific psychological characteristics. In the world class championship may be all players have same type of anthropometric characteristics and they all have gone through the same type of training etc, but at the level of psychological characteristics play a vital role in making successful or winning the championship.

Nowadays physiotherapist entered in training traditional "guru" training is modified with the help of a physiotherapist and a psychologist to increase each player's fitness. Modern coaching methods prepare athletes for the growth of physical fitness, psychological wellness, and physiological capacity.

Athletes’ performance does not only depend on his physical appearance but also on athlete’s physiological status, his vital capacity, blood pressure, heart rate and various biochemical parameters, energy sources, neuromuscular function, nutrition etc and his various organic systems functional capacity.

Basketball is a sport in which teams of five players compete against each other inside and outside of doors on a rectangular indoor court. An individual's peak has a very important role in ball action. This action may be quite famous throughout the world, but especially in the USA. The score for the game consists of 3 points, 2 points, and 1 point. A player may not be able to play again during a game if they have committed five personal fouls.

STATEMENT OF THE PROBLEM

The primary point of the investigation will be "comparing the selected Physical attribute, Physiological and Psychological parameters of Basketball players at various levels".

DEFINITION OF TERMS

SPEED- Speed is an essential part of physical health. This is the activity, in which the movement done at higher speed with lesser time.

AGILITY- It is the capability of a person to move appropriate away with safe zone.

CARDIOVASCULAR ENDURANCE- It is identified with the capacity of the heart, lungs and veins which may be valuable for offering oxygen to strong machine and tissues.

VITAL CAPACITY- Vita Capacity is the related to the amount of air that may exhaled after inspiration

PERSONALITY- Character is identified with a man's conduct, actual appearance and enthusiastic attributes.

REACTION ABILITY- It is the ability of an individual to respond promptly and successfully according to the signals and situation.

OBJECTIVE OF THE STUDY

1. To determine how the physical parameter (Speed) affects basketball players at different levels.
2. To determine how the physical parameter (Agility) affects basketball players at different levels.
3. To determine how the physical parameter (Reaction Ability) affects basketball players at different levels.
4. To determine how the physiological parameter (VO2 Max) affects basketball players at different levels.
5. To determine how the psychological parameter (Personality- Competitive stress and Achievement motivation) of basketball players at different levels.

DELIMITATION

This study will be delimited to the male players and further delimited to:

1. **Physical parameters**
   a) Speed
   b) Agility
   c) Reaction ability
2. **Physiological parameters**
   VO2 max (maximal oxygen consumption).
3. **Psychological parameter**
   a) Personality (Questionnaire)

LIMITATION

1. There will be no special motivational technique were used to encourage.
2. Although full assurance will be promised regarding the confidentially of the responses, still some of the subjects might have hesitated in presenting the true picture.
3. The individuals' personal habits, mental health, emotional stress, and other factors that may affect the results but were out of our control are some examples of the study's shortcomings.

SIGNIFICANCE OF THE STUDY

1. This investigate might be huge for the ball game devotees for doing their evaluation.
2. This investigate may help the mentors, physiologist and analyst to design their tutoring and training methodology
3. This investigates will helpful to give total records about ball and their boundaries to the mentors further to game devotees.
4. This study may help to identify the potential basketball players at childhood level (talent identification).
5. This study may help to psychologist to understand sports persons, special psychological characteristics of basketball players.
6. Bio-machinist can understand and explain specific requirement of various sports.
7. This study may help to physiologist to understand basketball players physiological characteristics at various performance level.

HYPOTHESIS

1. It will be hypothesized that significant difference among the selected physical parameters (Accuracy) of various levels of basketball players will be founded.
2. It will be hypothesized that significant difference among the selected physical parameters (Agility) of various levels of basketball players will be founded.
3. It will be hypothesized that significant difference among the selected physical parameters (leg strength) of various levels of basketball players will be founded.
4. It will be hypothesized that significant difference among the selected physiological parameters (Cardiovascular Endurance) of various levels of basketball players will be founded.
5. It will be hypothesized that significant difference among the selected physiological parameters (Vital Capacity) of various levels of basketball players will be founded.
6. It will be hypothesized that significant difference among the selected psychological parameters (Personality- Competitive stress and Achievement motivation) of various levels of basketball players will be founded.

REVIEW OF RELATED LITERATURE:

Kamlesh1 (1989): used Wood's inactive motivation inventory to try and diagnose the incentive motivation of Indian athletes. The results showed that excellence, affiliation success, and sensation are what drive Indian athletes to compete in sports, and that male and female athletes exhibit similar levels of incentive motivation. He also discovered that the motivational profiles of Indian sportsmen are typical.

Uppal, Sidhu and Gangopadhyay2(1988): 15 Indian and 15 Zimbabwean international women hockey players were given the Butt's Sports Motivation Scale. The research found no appreciable differences in the sports motivations of the Indian and Zimbabwean women's hockey teams. In terms of neuralgic confect score, the Indian Hockey Teams Co-operative and the Complete Zimbabwean Women's Hockey Team outperformed one another.

Aslan (2015) examined how the playing positions of Turkish amateur soccer players affected their physical fitness factors, physiological characteristics, and soccer skills. The study included a sample of 23 amateur male soccer players. Depending on their playing positions, the participants were split into three groups. Age, height, weight, body fat percentage, fat-free mass, speed, leg strength, hand grip, vertical jump, flexibility, and soccer-playing abilities of the individual were all measured. Tukey's test and one-way ANOVA were used to determine whether group had the significant difference. With the exception of right-hand grip strength, the ANOVA findings did not reveal any statistically significant differences between the groups in terms of physiological parameters or physical fitness factors.

Moses et al. (2015) based on their diverse playing roles, researchers studied the physiological characteristics and physical fitness variables of soccer club players. The study used a sample of twenty-five soccer players divided into nine different positions. BMI, heart rate, and blood pressure measurements for the athletes were assessed, and measures of speed (30-meter sprint), agility (Illinois agility run), and muscular endurance (burpee) were made. Significant physiological characteristics were present in the soccer players. With the exception of muscular endurance, differences in the chosen traits did not depend on playing positions. Goalkeepers had the highest physical endurance score, holding midfielders had the highest speed return, and center-forwards had the best agility score. The training regimens of the players seemed to lack position-specific developmental tactics. Athletic trainers and the coaching staff should design training regimens that are focused on the players' muscular endurance, speed, and agility in order to enhance their physiological parameters and physical fitness factors.

Sundari3: a study titled "Effect of extramural on accomplishment motivation, aggression, and anxiety among college women volleyball, basketball, and Kho-Kho players" was undertaken. She chose 90 female college athletes as her subjects. The study's goal was to ascertain how

extracurricular competition affected the accomplishment motivation questionnaire's measures of hostility, anxiety, and anxiety. Her research led her to the conclusion that extramural rivalry among college women had no effect on aggression, anxiety, or achievement motivation.

Poonam (2018) To examine the differences in certain physical fitness parameters between players of Kabaddi and Kho-kho, the current study was created. A random sample of 100 players from both games—50 from Kabaddi and 50 from Kho-Kho—were selected to participate in the study. The sample's age ranged from 18 to 25 years old. The criteria measures included the body mass index (BMI) for obesity, the 40-meter sprint, the standing wide jump, the sit-and-reach test, and speed. All statistical parameters were applied using SPSS version 17, and the t test was employed to compare the outcomes. The significance threshold was set at 0.05.

METHODOLOGY

Procedure

Data shall be collected at Intervarsity, Intercollegiate and state level etc.

Basketball players will be categories on the basis of their highest level of performance.

The Basketball players will be divided in majorly following categories:

1. Intervarsity level
2. Intercollegiate level
3. state level
4. District level

SELECTION OF SUBJECTS

Eighty basketball players (20Intervarsity level, 20 Intercollegiate level, 20 state level and 20 District level) were randomly selected from Meerut as a subject. The participants will range in age from 16 to 25.

SELECTION OF VARIABLES

Physical Parameter
Speed
Agility
Reaction Ability
Physiological parameters
VO2 Max
Psychological Parameter
Personality (Questionnaire)

SELECTION OF TEST

The test will be used in this study for the collection of data.

- **For physical parameter:**
- **Speed: 50** Meter Dash Test will be used.
- **Agility:** LANE agility drill test will be used.
- **Reaction Ability:** The Penny Cup test will be used.
- **Physiological parameters:**
- **VO2 max:** The Rockport Calculator software was used to measure VO2max (Maximum Oxygen Consumption).
- **Psychological parameters:**
  Self-made Standardized questionnaire will be used to determine various personality parameters.

TOOLS:

Measuring Tape, Basketball Court, Cones, Whistle, Marker, Stopwatch, Spirometer and 50cm wooden box or platform**.**

STATISTICAL TECHNIQUE

Appropriate statistical method and techniques will be used.

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